

REMARKS

Reconsideration of this application is respectfully requested.

Claims 1-4 and 6-13 were rejected under 35 USC §102(b) based on U.S. patent 5,609,953 to Tamura. Claims 5 and 14-16 were rejected under 35 USC §103(a), also based on Tamura.

Prior to discussing Tamura and the amended claims it may be helpful to briefly discuss some of the novel concepts of the present invention as claimed herein.

Applicants show an apparatus and method for manufacturing panel bodies of plastic material. The apparatus includes a mold having an expandable mold cavity.

Before plastic is injected into the expandable mould cavity reinforcing material such as strings, bars, tubes or netting are placed in recesses of the mold cavity. Pusher devices are arranged to move the reinforcement material into the mold cavity away from the recesses. The pusher devices also hold the reinforcement material in the mold cavity. Plastic material is then injected into the mold cavity to fill up a first volume of the cavity and surround the supported reinforcing material.

The pushers are moved away from the reinforcing material and out of the mold cavity while the mold cavity is being enlarged to a second expanded volume. The plastic material expands to fill the enlarged mold cavity.

The resulting molded product with reinforcing material has no pin support holes and no trace of the pusher devices because of the movement of the pusher devices out of the mold cavity while the plastic is expanding to the second volume of the mold cavity.

The Tamura patent relates to molding of spherical articles wherein a premolded core is held in a mold by pins that project outside the mold. When molding is completed the pins remain in the molded article and must be removed from the molded article leaving holes in the molded

article. The holes must thus be plugged in a plugging operation that follows the molding operation.

The apparatus and methods disclosed by Tamura are entirely different from the apparatus and methods disclosed by applicants. Furthermore the problems dealt with and solved applicants are entirely different from those dealt with by Tamura.

With regard to the claims independent claim 17, which takes the place of claim 1, defines a method that requires,

“...providing...a mould cavity...expandable from a first volume to a second larger volume...with...recessed portions...placing...reinforcement materials...in the recessed portions...moving and supporting the reinforcing material into the mould cavity...injecting expandable plastic material into...the first volume of mould cavity...to... surround...the reinforcing material...expanding the mould cavity from the first volume to the second larger volume...withdrawing...pushers...from the reinforcing material and the...mould cavity before the plastic...expands to the second volume of the mould cavity.”

Claim 17 thus requires a method for molding using an expansible mold and expandable plastic wherein reinforcing inserts are encased in a molded product, such that the molded product is without any pin support holes.

Tamura does not show a mold having a mold cavity that is expandable from a first volume to a second volume. Rather Tamura shows a molded product 3 positioned in a nonexpandable mold 10, and held in place by pins 4 and 5 throughout the entire molding operation. Thus pin holes are left in the molded product and must be plugged after molding is completed.

Applicants submit that there is no showing or suggestion by Tamura of the method defined in claim 17. Allowance of claim 17 is thus respectfully requested.

Claims 2-6 which directly or indirectly depend on claim 17 are likewise submitted as allowable for the reasons supporting allowance of claim 17 as well the distinctions defined in claims 2-6. Allowance of claims 2-6 is thus respectfully requested.

Independent apparatus claim 18 replaces claim 7. Claim 18 requires,

“...a mould having a mould cavity that defines a first volume...a second volume...larger than the first volume...a plurality of recessed portions for containing reinforcing material...at least one movable pusher rod for each recessed portion...to move and hold reinforcing material in the mould cavity in a support position...to enable injected plastic material to surround the reinforcing material...means for withdrawing the pusher rods...from...the reinforcing material...the mould cavity to prevent the pusher rods from contacting the...plastic material...and reinforcing material when the plastic...is expanded to the second volume of the mould cavity.”

It is submitted that claim 18 is allowable for reasons similar to those previously presented to support allowance of claim 17. For example Tamura does not disclose an expandable mold cavity or pusher rods that are movable out of from the mold cavity during expansion of plastic material in the mold cavity.

Accordingly it is submitted that claim 18 is allowable and allowance thereof is respectfully requested.

Claims 8-16 which directly or indirectly depend on claim 18 are likewise submitted as allowable for the reasons presented in support of allowance of claim 18 as well as the distinctions defined in claims 8-16. Allowance of claims 8-16 is thus respectfully requested.

It should also be noted that the priority Norwegian application with claims of similar scope to those presented herein has issued as Norwegian patent 318008. A corresponding European application and a corresponding Canadian application, both of which have claims of similar scope to those submitted herein, have been allowed.

In view of the foregoing remarks and amendments it is submitted that this application is in condition for allowance and allowance thereof is respectfully requested.

Respectfully submitted,
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